

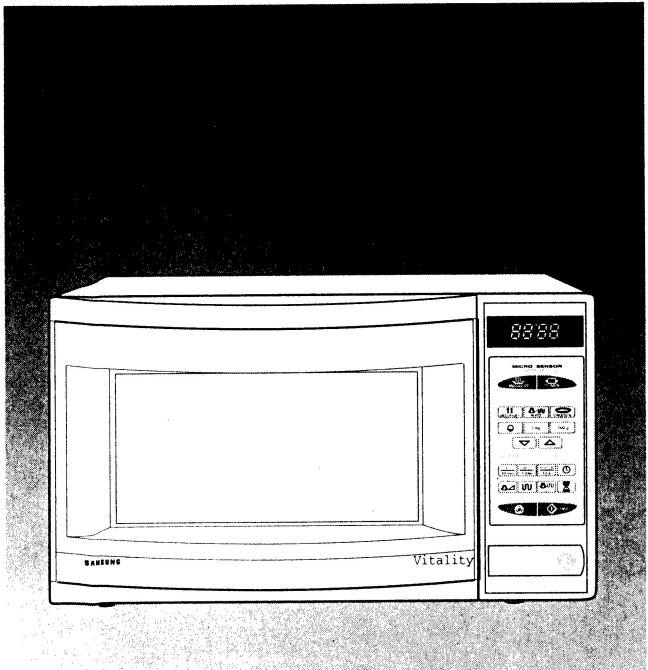


MICROWAVE OVEN

CE95GF

SERVICE Manual

MICROWAVE OVEN



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1. Precaution

1-1. Safety Precaution (⚠)

- 1) Pacemaker wearers must consult their physician before attempting to service or repair a microwave oven.
For additional advice on this subject, write to the manufacturer of your pacemaker.
- 2) The product should be serviced only by qualified personnel.
- 3) Though the product has been manufactured in compliance with the Federal performance Standard 21 CFR Subchapter J(DHHS), it is very important when servicing to avoid being exposed to excessive microwave radiation. All the repairs should be performed in accordance with the procedures described in this manual.
- 4) Use only the identical parts as listed in the parts list of this manual in order to comply with the Federal performance Standard 21 CFR Subchapter J(DHHS).
- 5) In the event of suspected microwave energy leakage in excess of 5mW/cm2, please notify;

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- 6) Repair microwave oven at no charge to the owner for excessive microwave emission level.
- 7) Ascertain the cause of the excessive leakage and instruct the owner not to use the unit until the oven has been brought into compliance.
- 8) If the oven is operated with the door open, please advise the owner not to use the oven and contact the manufacturer and CDRH immediately.
- 9) There are special components used in the microwave oven which are important for safety. These parts are marked with a on the replacement parts list. It is essential that these critical parts should be replaced only with the manufacturer's specified parts to prevent microwave leakage, shock, fire, or other hazards. Do not modify the original design.

1-2. Servicing Precaution (⚡)

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

- a. Do not operate or allow the oven to be operated with the door open.

b. Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and then make repairs as necessary:
 - (1) Interlock operation
 - (2) proper door closing
 - (3) seal and sealing surfaces (arcing, wear, and other damage)
 - (4) damage to or loosening of hinges and latches
 - (5) evidence of dropping or abuse.
- c. Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity, and connections.

d. Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before g the oven is released to the owner.

e. A Microwave leakage check to verify compliance with the Federal performance standard should be performed on each oven prior to release to the owner.

2. Specifications

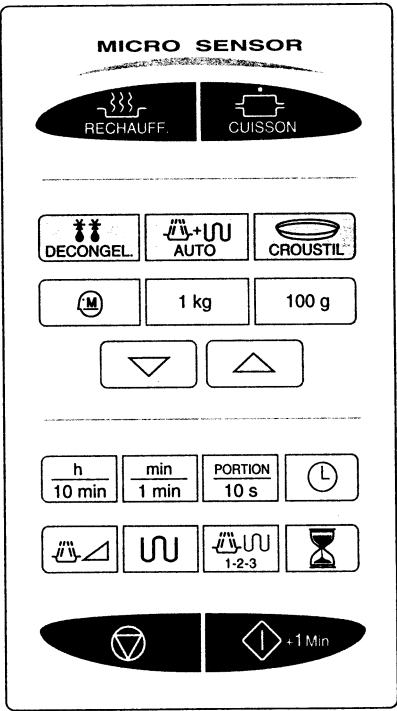
SPECIFICATIONS

TIMER	99 MINUTES 90 SECONDS				
POWER SOURCE	230V 50Hz, AC				
POWER CONSUMPTION	MICROWAVE : 1,500W				
	GRILL: 1,300W				
OUTPUT POWER	FROM 90W TO 900W (10 LEVEL POWER) →				
	(IEC-705 TEST PROCEDURE)				
OPERATING FREQUENCY	2,450MHz				
MAGNETRON	OM75PH(31)ESS				
COOLING METHOD	COOLING FAN MOTOR				
OUTSIDE DIMENSIONS	517(W) x 317(H) x 433(D)				
		</			

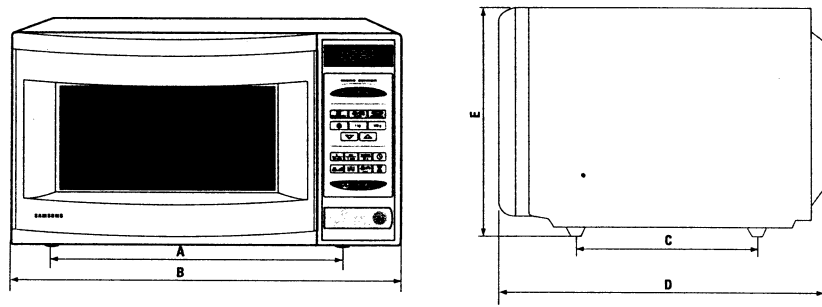
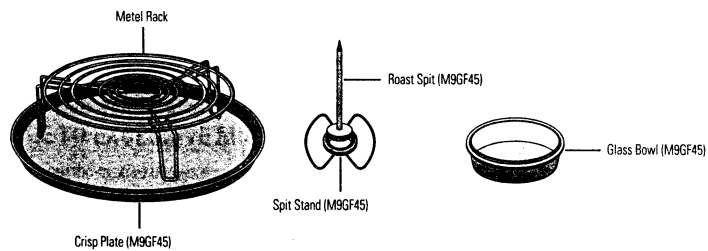
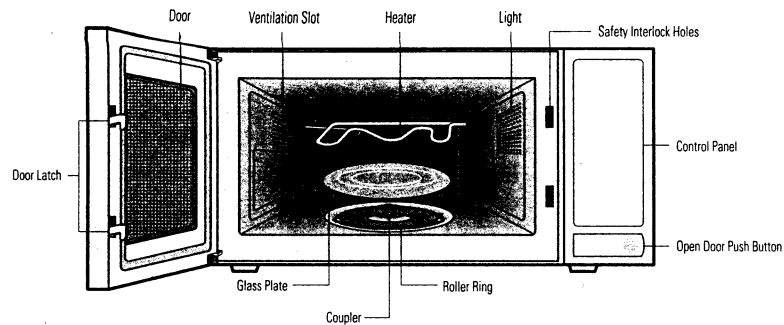
3. Comparing Chart

FEATURE	MODEL	CE95GF
MORE/LESS		○
AUTO COOK/DISH		○
AUTO DEFROST		○
TIME COOK		○
POWER LEVEL		○
INSTANT COOK		○
MEMORY		○
BOOST		○
CHILD LOCK		○
CLOCK		○
GRILL		○
COMBI		○

4. Control Panel



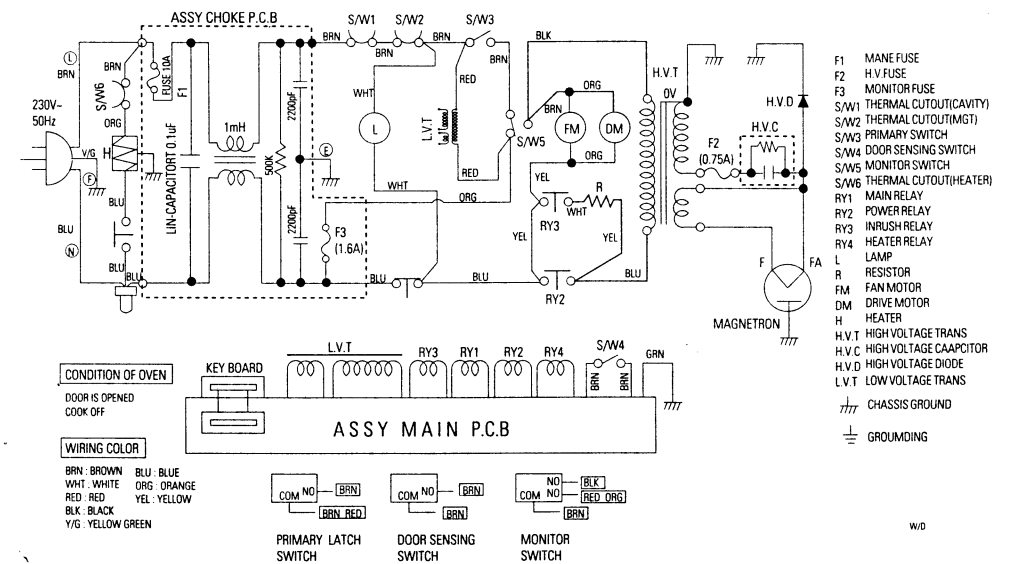
5. Features & External Views



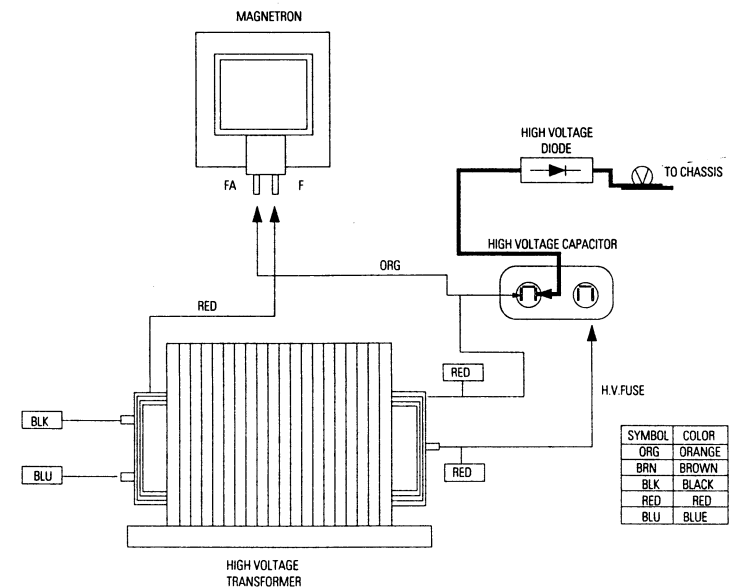
MODEL \ SPEC	A	B	C	D	E
CE95GF	380mm	517mm	232mm	433mm	317mm

6. Wiring Diagram

Wiring Diagram



High Voltage Circuit



7. Cautions Observed when Servicing

Unlike many other appliances, the microwave oven is high-voltage, high current equipment. Though it is free from danger in ordinary use, extreme care should be taken during repair.

PRECAUTION

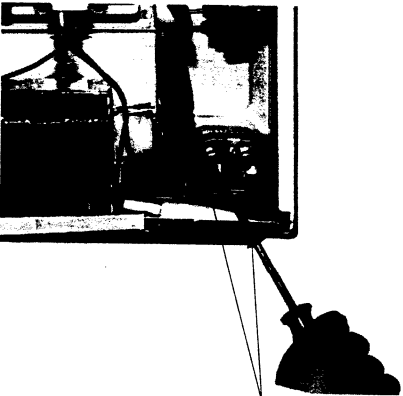
Servicemen should remove their watches whenever working close to or replacing the magnetron.

1. Check the ground.

Do not operate on a 2-wire extension cord. The microwave oven is designed to be used when grounded. It is imperative, therefore, to make sure that the oven should be grounded prior to repair.

2. Warning about the electric charge in the high voltage capacitor

As an electric charge in the high voltage capacitor remains for about 30 seconds after operation stops, short the current between the oven chassis and the negative terminal of the high voltage capacitor, by using a screwdriver before replacing or checking parts.



Touch chassis side first then short to the high voltage capacitor terminal by using a screwdriver or jumper wire.

3. When parts must be replaced, remove the power plug from the outlet

4. When the 1.6 Amp fuse is blown out by the operation of the interlock Monitor switch:

- (A) Replace the primary, door sensing and interlock monitor switches. This is mandatory. Refer to page 22 for the necessary adjustments of these switches.
- (B) When replacing the fuse, confirm that it has the appropriate rating for this model.

5. Avoid inserting any foreign materials, etc. through any hole in the unit during operation.

Never insert any foreign materials or any other metal object through the lamp hole on the cavity or any other holes or gaps, because such objects may work as an antenna and cause microwave leakage.

6. Confirm after repair:

- (A) After repair or replacement of parts, make sure that screws of the oven are neither loose nor missing; to prevent the microwave leakage.
- (B) Make sure that all electrical connections are tight before inserting the plug in to the wall outlet.
- (C) Check for radiation leakage. (Refer to the procedure for measuring energy leakage in page 23.)

PRECAUTION

There exists HIGH VOLTAGE ELECTRICITY with high current capabilities in the circuits of the HIGH VOLTAGE TRANSFORMER secondary and filament terminals. It is extremely dangerous to work on or near these circuits with the oven energized. DO NOT measure the voltage in the high voltage circuit including filament voltage of magnetron.

PRECAUTION

Never touch any circuit wiring with your hand nor with an insulated tool during operation.

8. Circuit Descriptions

Refer to the wiring diagram on page 18.

1. When food is placed inside oven and door is closed

- (A) Low voltage transformer supplies necessary voltage to the touch control circuit when power cord is plugged in.
- (B) The primary interlock switch is closed.
- (C) The interlock monitor switch is opened. This interlock monitor switch acts to blow 10A fuse and stop magnetron oscillation when the door is opened during operation under an abnormal condition. (i.e. the contacts of door sensing switch do not open and the contacts of secondary interlock switch do not close the circuit to stop oscillation)
- (D) The door key is caught by the door hook, the door sensing switch is closed to send the door-close signal to the touch control circuit.

2. When cooking cycle, power and time are set by touching the function pads

- (A) The time set appears in the display window.
- (B) The touch control circuit stores the cooking data set.

3. When the START pad is touched

- The main relay and the power control relay are controlled by the touch control circuit.
- (A) An oven lamp lights the inside of the oven by operation of the main relay in the Touch Control Circuit.
- (B) Fan motor rotates and cools the magnetron by blowing the air coming from the intake on the back panel over the magnetron fins. After cooling the fins, this air is directed into the oven to blow out the vapor.

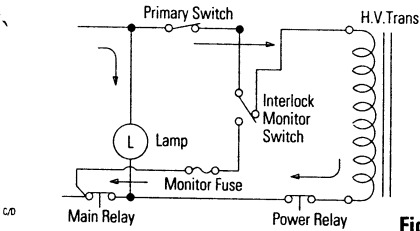


Fig. 1

- (C) 230V-50Hz AC is applied to the high voltage transformer through the contacts of primary windings as shown by the solid line just after the power control relay turns ON. (Fig. 1)
- (D) 3.4V AC is generated from the filament winding of the high voltage transformer. This 3.4V is applied to the magnetron to heat the magnetron filament through two noise preventing choke coils.
- (E) High voltage of 2,230 volts AC is generated from the high voltage transformer secondary and this secondary voltage is increased by the action of the diode and the charging of the high voltage capacitor. This resultant D.C. voltage is then applied to the anode of the magnetron. As shown in the Fig. 2, the first half cycle of the high voltage produced in the secondary high voltage transformer charges the high voltage capacitor. The dotted lines indicate the current flow. During operation of the second half cycle, the voltage produced by the transformer secondary and the charge of the high voltage capacitor are combined and applied to the magnetron as shown in the solid line so that magnetron starts to oscillate. The interference wave generated from the magnetron is prevented by the 1.6uH choke coils, 500pF filter capacitors and the magnetron's shielded case so that TV and radio signals are not interfered with.

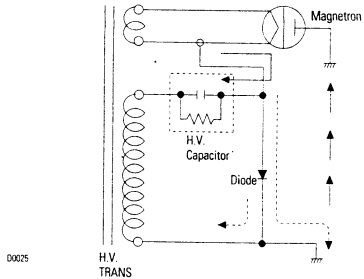


Fig. 2

- (F) The power control relay is turned on intermittently by the touch control circuit, when the oven is set at any power except for full power. The touch control circuit controls the ON/OFF time of the power control relay in order to vary the output power of the microwave oven from Low to "Full" power. One complete ON/OFF cycle of the power control is 30 seconds.
 - (G) The cooking time shown on the display start to count down.
4. When the door is opened during cooking
- (A) The primary interlock switch is opened to cut off the primary voltage of the high voltage transformer to stop microwave oscillation.
 - (B) The door sensing switch is opened to give the door open information to touch control circuit. The main relay stays on, the power control relay turns off and the display stops counting down.
 - (C) The fan motor and turn-table motor are stopped by operation of the primary or secondary interlock switch. But the oven lamp lights the inside of the oven again until the door is closed.
 - (D) Upon opening the door, the contacts of primary interlock switch open and the contacts of interlock monitor switch close the short circuit.
 - (E) If the contacts of primary interlock switch do not function properly, the monitor fuse blows out due to the large current surge caused by the monitor switch activation, and this in turn stops magnetron oscillation. (Fig. 3)

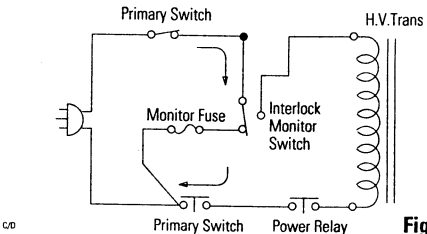


Fig. 3

5. When the CANCEL pad is touched during cooking

- (A) Once touching of the CANCEL pad stops the time cooking. Twice touching of the pad cancels all programs stored in the touch control circuit. The time of day reappears on the display window.
- (B) The oven lamp and cooking indicators turn off.
- (C) The fan motor stops.
- (D) The power control relay turns off to cut primary voltage to high voltage transformer so that the magnetron stops oscillation.

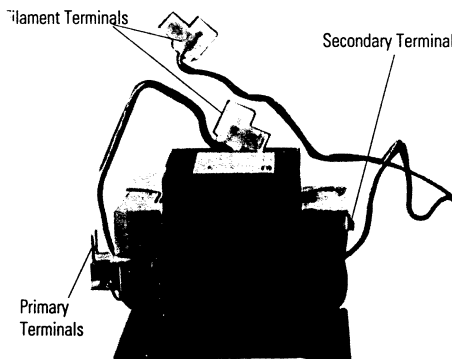
9. Component Test Procedure

PRECAUTION

1. High voltage is present at the high voltage terminal of the high voltage transformer during any cook cycle.
2. It is neither necessary nor advisable to attempt measurement of the high voltage.
3. Before touching any oven components, or wiring, always unplug the oven from its power source and discharge the high voltage capacitor.

1. High Voltage Transformer

- 1) Remove connectors from the transformer terminals and check continuity.
- 2) Normal resistance readings should be as follows:
Secondary.....Approx. 94Ω
Filament.....Approx. 0Ω
Primary.....Approx. 1.6Ω
(Room temperature = 20°C)



2. Low Voltage Transformer

- The low voltage transformer is located on the control circuit board.
- 1) Remove the low voltage Transformer from the PCB Ass'y and check continuity.
 - 2) Normal resistor reading should be as follows.

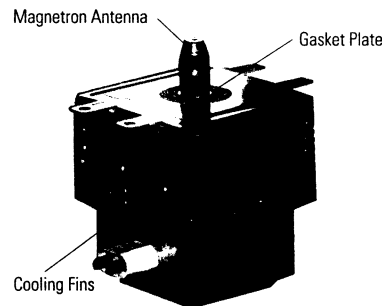
Terminals	Resistance
1-2(Input)	1000Ω
3-4(Output 2.9V)	3.947Ω
5-6(Output 13V)	2.117Ω

3. Magnetron

Continuity checks can only indicate an open filament or a shorted magnetron. To diagnose an open filament or shorted magnetron;

- 1) Isolate the magnetron from the circuit by disconnecting its leads.
- 2) A continuity check across the magnetron filament terminals should indicate one ohm or less.
- 3) A continuity check between each filament terminal and magnetron case should read open.

4. High Voltage Capacitor



- 1) Check continuity of the capacitor with meter set at the highest ohm scale.
- 2) Once the capacitor is charged, a normal capacitor shows continuity for a short time, and then indicates 9MΩ.
- 3) A shorted capacitor will show continuous continuity.
- 4) An open capacitor will show constant 9MΩ.
- 5) Resistance between each terminal and chassis should read infinite.

5. High Voltage Diode

- 1) Isolate the diode from the circuit by disconnecting its leads.
- 2) With the ohm-meter set at the highest resistance scale, measure the resistance across the diode terminals. Reverse the meter leads and read the resistance. A meter with 6V, 9V or higher voltage batteries should be used to check the front-to-back resistance of the diode, otherwise an infinite resistance may be read in both directions. The resistance of a normal diode will be infinite in one direction and several hundred KΩ in the other direction.

6. Main Relay and Power Control Relay

The relays are located on the PCB Ass'y.

- 1) Isolate the relays from the main circuit by disconnecting the leads.
- 2) operate the microwave oven with a water load in the oven and the power level set to high.
- 3) Check continuity between terminals of the relays after the start pad is pressed.

10. Measurements & Adjustments

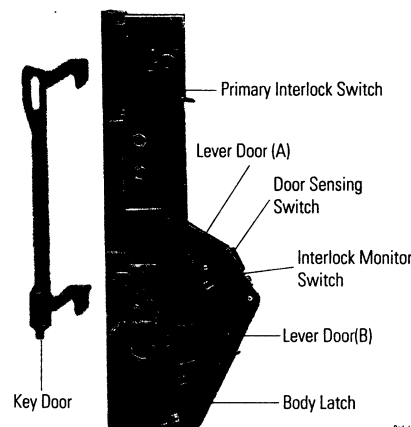
Precaution

For continued protection against radiation hazard, replace parts in accordance with the wiring diagram and be sure to use the correct part number for the following switches. Primary and secondary interlock switches and the interlock monitor switch all together. Then follow the adjustment procedures below. After repair and adjustment, be sure to check the continuity of all interlock switches and the interlock monitor switch.

1. Adjustment of Primary Switch, Door Sensing Switch and Monitor Switch

- 1) When mounting Primary switch and interlock Monitor switch to Latch Body, consult the figure below.
NOTE: No specific adjustment during installation of Primary switch and Monitor switch to the latch body is necessary.
- 2) When mounting the Latch Body to the oven assembly, adjust to the Latch Body by moving it so that the oven door will not have any play in it. Check for play in the door by pulling the door assembly. Make sure that the latch keys move smoothly after adjustment is completed. Completely tighten the screws holding the Latch Body to the oven assembly.
- 3) Reconnect to Monitor switch and check the continuity of the monitor circuit and all latch switches again by following the components test procedures.
Please confirm that the gap between the switch housing and the switch actuator is no more than 0.5mm when door is closed.

	Door Open	Door Closed
Primary switch	∞	0
Monitor switch (COM-NC)	0	∞
Monitor switch (COM-NO)	∞	0
Door Sensing S/W	∞	0



2. Output Power of Magnetron

The output power of the magnetron can be simply measured by performing a water temperature rise test.

Equipment needed for the test:

- * Two 1-liter cylindrical borosilicate glass vessel (Outside diameter of 190mm)
- * One glass thermometer with mercury column

NOTE: Check line voltage under load. Low voltage will lower the magnetron output. Make all temperature and time tests with accurate equipment.

- (A) Fill the one liter glass vessel with one liter of water.
- (B) Stir water in glass vessel with thermometer and record glass vessel's temperature as T1. (10±1°C)
- (C) After moving the water into another glass vessel, place it on the center of the cooking tray. Set the oven to high power and operate for 49 seconds exactly. (2 seconds included as a holding time of magnetron oscillation)
- (D) When heating is finished, stir the water again with the thermometer and measure the temperature rise as T2.
- (E) Subtract R1 from T2. This will give you the water temperature rise. (ΔT)
- (F) The output power is obtained by the following formula;

$$\text{Output Power} = \frac{4.187 \times 1000 \times \Delta T}{49}$$

49 : Heating Time (sec)
4.187 : Coefficient for Water
1000 : Water (cc)
ΔT : Temperature Rise (T2-T1)

* Output (W) = 100 x ΔT

- (F) Normal temperature rise for this model is 9°C to 11°C at 'HIGH'.
NOTE 1: Variations or errors in the test procedure will cause a variance in the temperature rise. Additional power test should be made if temperature rise is marginal.
NOTE 2: Output power in watts is computed by multiplying the temperature rise (step E) by a power factor of 91 in case of centigrade temperature.

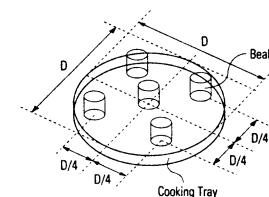
3. Microwave Heat Distribution - Heat Evenness

The microwave heat distribution can be checked by indirectly measuring the water temperature rises at certain positions in the oven as directed below.

- (1) Prepare five beakers made of 'Pyrex', having 100 milliliters capacity each.
- (B) Measure exactly 100milliliters off water load with a measuring cylinder and pour it into each beaker.
- (C) Measure the temperature of each water load.
(Readings shall be taken to the first place of decimals.)
- (D) Put each beaker in place on the cooking tray as illustrated in Figure below and start heating.
- (E) After heating for 2 minutes, measure the temperatures of water in each beaker.
- (F) Microwave heat distribution rate can be obtained by the following formula.

$$\text{Heat Distribution} = \frac{\text{Minimum Temperature Rise}}{\text{Maximum Temperature Rise}} \times 100(\%)$$

The result should exceed 65%.



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CAUTION MICROWAVE RADIATION

PERSONNEL SHOULD NOT BECOME EXPOSED TO MICROWAVE RADIATION FROM MICROWAVE GENERATOR OR OTHER PARTS CONDUCTING MICROWAVE ENERGY.

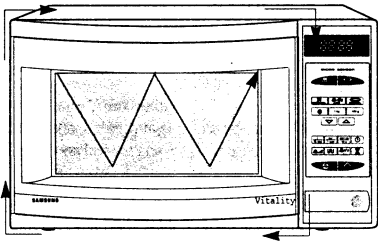
11. Leakage Measuring Procedure

1. Equipment

- * Microwave Energy Survey Meter
- * 600cc glass beaker
- * Mercurial or digital thermometer 100°C or 212°F

2. Procedure for Measurement of Microwave Energy Leakage

- 1) Pour 275±15cc of 20±5°C (68±9°F) water in a beaker which is graduated to 600cc, and place the beaker in the center of the oven.
- 2) Start to operate the oven and measure the leakage by using a microwave energy survey meter.
- 3) Set survey meter with dual ranges to 2,450MHz.
- 4) When measuring the leakage, always use the 2 inch spacer cone with the probe. Hold the probe perpendicular to the cabinet door. Place the spacer cone of the probe on the door and/or cabinet door seam and move along the seam, the door viewing window and the exhaust openings moving the probe in clockwise direction at a rate of 1 inch/sec. If the leakage testing of the cabinet door seam is taken near a corner of the door, keep the probe perpendicular to the areas making sure that the probe end at the base of the cone does not get closer than 2 inches to any metal. If it gets closer than 2 inches, erroneous readings may result.
- 5) Measured leakage must be less than 5mW/cm², after repair or adjustment.

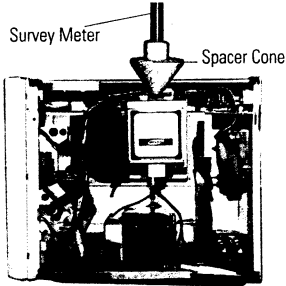


3. Check for Microwave Energy Leakage with Outer Panel Removed.

- 1) Remove the outer panel.
- 2) Pour 275±15cc of 20±5°C (68±9°F) water in a beaker which is graduated to 600cc, and place the beaker in the center of the oven.
- 3) Start to operate the oven at the highest power level.
- 4) Set survey meter with dual ranges to 2,450MHz.
- 5) By using the survey meter and spacer cone as described above, measure around the opening area of magnetron, the surface of the air guide and the surface of the wave guide as shown in the following photo but avoid the high voltage components. The meter should read less than 5mW/cm².

4. Note on Measurement

- 1) Do not exceed the limited scale.



WARNING

AVOID THE HIGH VOLTAGE COMPONENTS.

- 2) The test probe must be held on the grip of the handle, otherwise a false reading may result when the operator's hand is between the handle and the probe.
- 3) When high leakage is suspected, do not move the probe horizontally along the oven surface; this may cause damage to the probe.
- 4) Follow the recommendation of the manufacturer of the microwave energy survey meter.

5. Record keeping and notification after measurement

- 1) After adjustment and repair of a radiation preventing device, make a repair record for the measured values, and keep the data.
- 2) If the radiation leakage is more than 5mW/cm² after determining that all parts are in good condition, functioning properly and the identical parts are replaced as listed in this manual, notify that fact to;

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6. At least once a year have the Microwave Energy Survey Meter checked for accuracy by its manufacturer.

12. Troubleshooting

PRECAUTION

1. CHECK GROUNDING BEFORE CHECKING FOR TROUBLE.
2. BE CAREFUL OF THE HIGH VOLTAGE CIRCUIT.
3. DISCHARGE THE HIGH VOLTAGE CAPACITOR.
4. WHEN CHECKING THE CONTINUITY OF THE SWITCHES OR TRANSFORMER, DISCONNECT ONE LEAD WIRE FROM THESE PARTS AND THEN CHECK CONTINUITY WITHOUT THE POWER SOURCE ON. TO DO OTHERWISE MAY RESULT IN A FALSE READING OR A DAMAGE TO YOUR METER.
5. DO NOT TOUCH ANY PART OF THE CIRCUIT OR THE TOUCH CONTROL CIRCUIT BOARD, SINCE STATIC ELECTRIC DISCHARGE MAY DAMAGE THIS CONTROL PANEL. ALWAYS TOUCH GROUND WHILE WORKING ON THIS TO DISCHARGE ANY STATIC CHARGE BUILT UP IN YOUR BODY.

First of all operate the microwave oven by observing the correct operating procedures by time cooking in order to find the exact cause of any trouble.

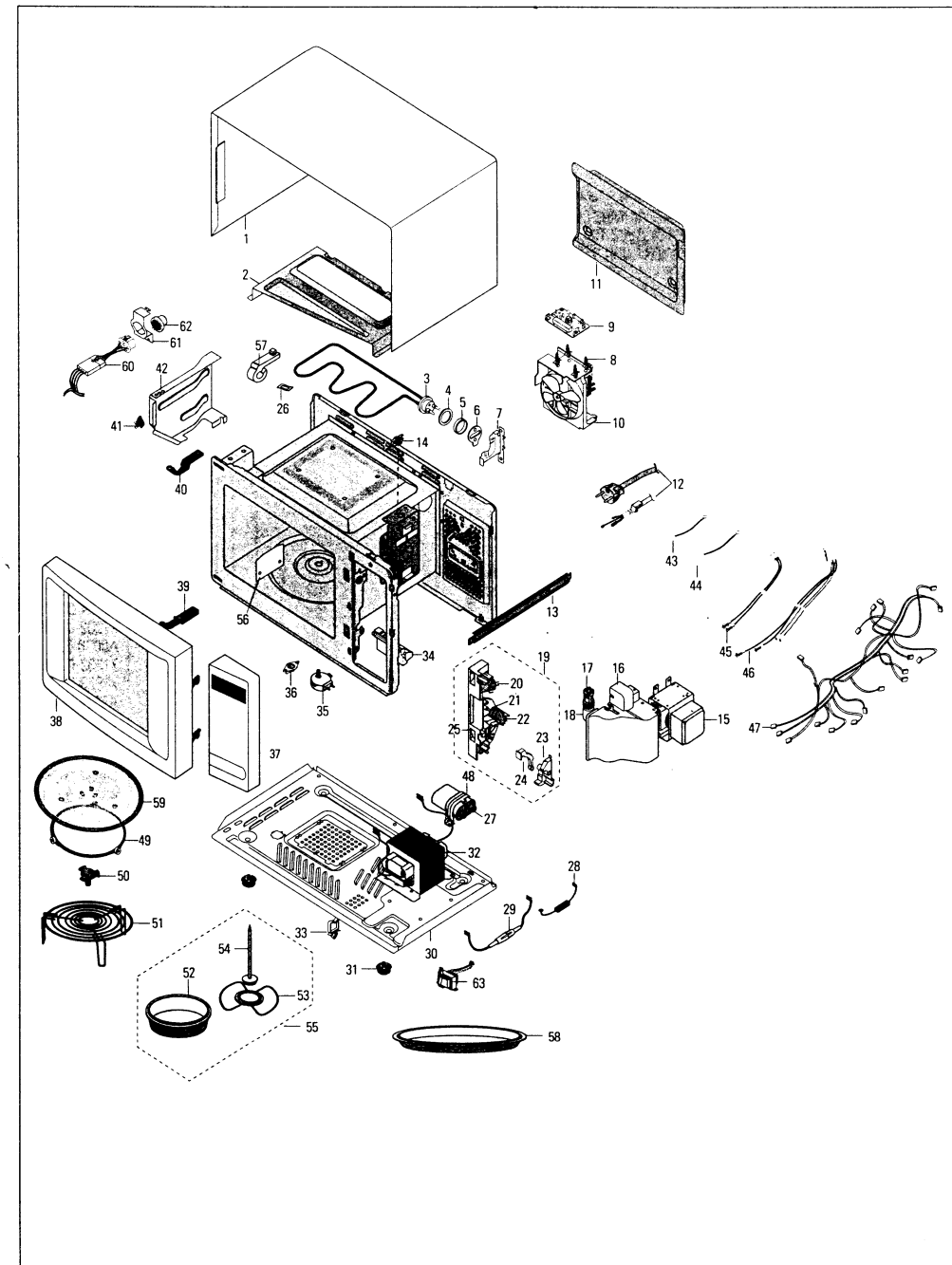
1. Problems not Related to Defects of the Oven

SYMPTOM		CAUSE	CORRECTIONS
1	Oven is dead. Fuse is OK. No display and no operation at all.	1. Open or loose lead wire harness 2. Open thermal cutout(Magnetron) 3. Open low voltage transformer 4. Defective Ass'y PCB	Check fan motor when thermal cutout is defective. Check Ass'y PCB when LVT is defective.
2	No display and no operation at all. Fuse is blown.	1. Shorted lead wire harness 2. Defective primary latch switch(NOTE 1) 3. Defective monitor switch (NOTE1) 4. Shorted HVCapacitor 5. Shorted HVTransformer (NOTE2)	Check adjustment of primary, interlock monitor, door sensing switch.
		NOTE 1: All of these switches must be replaced at the same time. (refer to adjustment instructions) Check continuity of power relay contacts and if it has continuity, replace power relay also. NOTE 2: When HVTransformer is replaced, check diode and magnetron also.	
3	Oven does not accept key input(Program)	1. Key input is not in-Sequence 2. Open or loose connection of membrane key pad to Ass'y PCB 3. Shorted or open membrane panel 4. Defective Ass'y PCB	Refer to operation procedure. Replace PCB main.
4	Timer starts countdown but no microwave oscillation. (No heat while oven lamp and fan motor turn on.)	1. Off-alignment of latch switches 2. Open or loose connection of high voltage circuit especially magnetron filament circuit NOTE: Large contact resistance will bring lower magnetron filament voltage and cause magnetron to lower output and/or intermittent oscillation. 3. Defective high voltage components H.V.Transformor H.V.Capacitor H.V.Diode, H.V.Fuse Magnetron 4. Open or loose wiring of power relay 5. Defective primary latch switch 6. Defective power relay or Ass'y PCB	Adjust door and latch switches. Check high voltage component according to component test procedure and replace if it is defective. Replace PCB main.

Troubleshooting

	SYMPTOM	CAUSE	CORRECTIONS
5	Oven lamp and fan motor turn on	1. Misadjustment or loose wiring of primary latch switch 2. Defective primary latch switch	Adjust door and latch switches.
6	Oven can program but timer does not start.	1. Open or loose wiring of secondary interlock switch 2. Off-alignment of primary interlock 3. Defective secondary interlock S/W	Adjust door and interlock switches.
7	Microwave output is low. Oven takes longer time to cook food.	1. Decrease in power source voltage. 2. Open or loose wiring of magnetron filament circuit. (Intermittent oscillation) 3. Aging change of magnetron	Consult electrician.
8	Fan motor turns on when plugged in	Loose wiring of door sensing switch	Check wire of door sensing switch.
9	Oven does not operate and return to the plugged in mode.	Defective Ass'y PCB	Replace PCB main.
10	Loud buzzing noise can be heard.	1. Loose fan and fan motor 2. Loose screws on H.V.Transformer 3. Shorted H.V.Diode	Tighten screws of fan motor. Tighten screws of H.V.Transformer. Replace H.V.Diode.
11	Turntable motor does not rotate.	1. Open or loose wiring of turntable motor. 2. Defective turntable motor.	Replace turntable motor.
12	Oven stops operation during cooking	1. Open or loose wiring of primary interlock switch 2. Operation of thermal cutout(Magnetron)	Adjust door and latch switches.
13	Sparks	1. Metallic ware or cooking dishes touching on the oven wall. 2. Ceramic ware trimmed with gold or silver powder also causes sparks.	Educate your customer. Do not use any type of cookware with metallic trimming.
14	Uneven cooking	Uneven intensity of microwave due to its characteristics.	Wrap thinner parts of the food with aluminum foil. Use plastic wrap or cover with a lid. Stir once or twice while cooking foods such as soup, cocoa, or milk.
15	Clock noise from the turntable motor when it starts to operate.	The noise may result from the motor.	Replace turntable motor.

Exploded View



Parts List - Main Parts

CE95GF

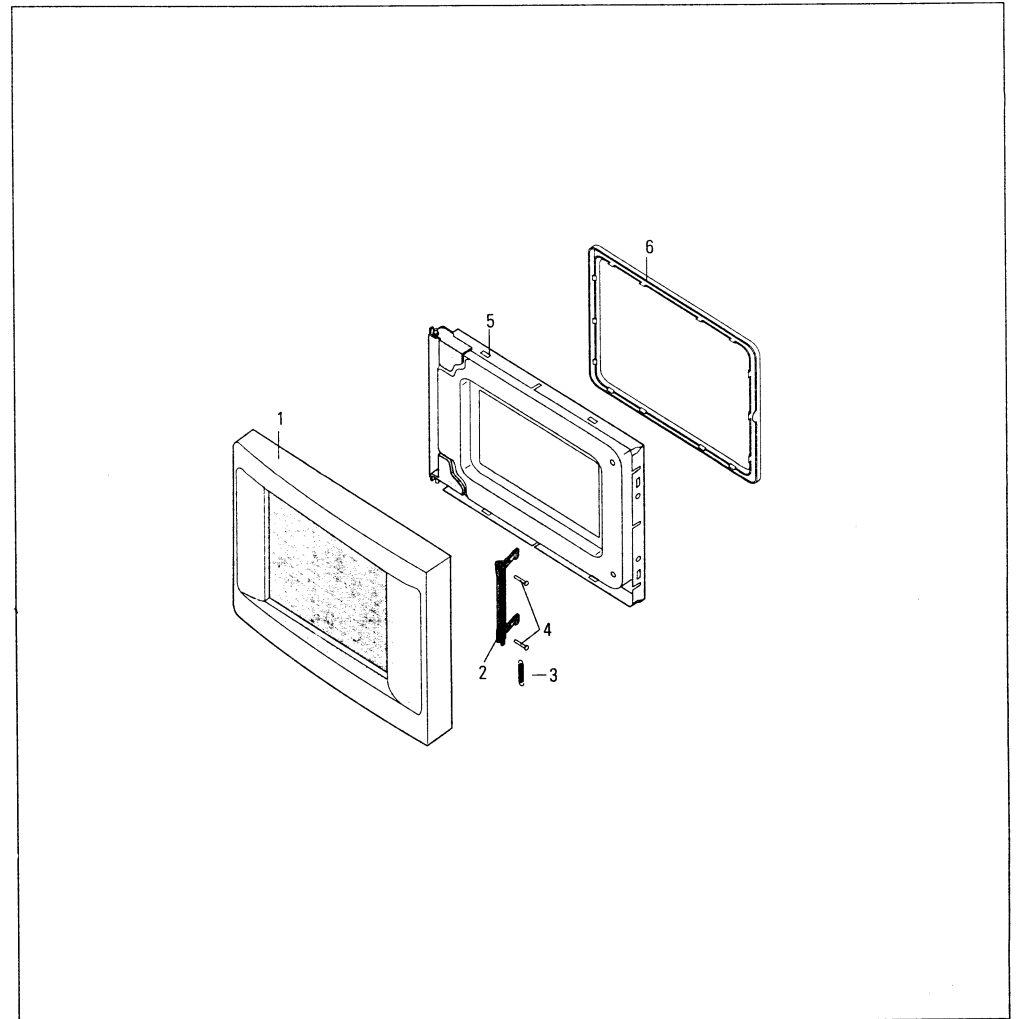
Ref. No.	Parts No.	Description/Specification	Q'ty	Remarks	Old No.
1	DE70-30030B	PANEL-OUTER;C/STEEL T0.6 W380.5 L1134 SC	1		72061-0016-01
2	DE61-50074A	BRACKET-UPPER;ALCOAT T0.6 W248 L422 M9GF	1		73012-0256-00
3	DE47-70031G	HEATER-GRILL;D6.6 230V1280W M9G45 SJH	1	▲	
4	DE63-20017A	GASKET-HEATER;BRASS T1.5 OD30.5 ID22.5	1		73404-0014-00
5	DE60-90006A	FLANGE-RING;C3604BD ID22.1 OD26 L4.7 MBG	1		71434-0002-00
6	DE61-50115A	BRACKET-HEATER;BSS2-A T1.0 W55 L55.5 M9G	1		73013-0255-00
7	DE61-50177A	BRACKET-EARTH;BSS2-A T1.0 W28 L38 M9GF45	1		73014-0275-00
8	DE61-30129A	SUPPORTER-PCB;DASS-T9N	2		76659-200-510
9	DE91-40046A	ASSY NOISE FILTER;SS-599B 250V 10A GRILL	1		79179-0046-00
10	DE31-10077D	MOTOR-FAN;AMM92-002AUCC 230V50HZ MIN2550	1		76822-0054-001
11	DE71-60105A	COVER-BACK;SECC T0.5 W254.5 L410 M9245GD	1		73312-0162-00
12	DE39-20062A	ASSY POWER CORD;3183Y H05VVF 1.5MM 240V1	1		79243-0085-00
13	DE61-30054A	SUPPORTER-MGT;SECC T0.6 W33.2 L317 MW563	1		73073-0034-00
14	DE47-20112A	THERMOSTAT;NT-101NA(5XHP) 125V15A H 115/	1		A3024-0028
15	DE03-30035A	MAGNETRON;OM75PH((31)ESS	1	▲	77059-0034-00
16	DE71-60104A	COVER-AIR;NYLON#66 105G M9GF45 WHT	1		73312-0161-00
17	DE47-40029A	SOCKET-LAMP;250V2A 22.230 E14 BJB	1		B3046-0003
18	4713-000168	LAMP-INCANDESCENT;230V-.25W,ORG,-,-,	1		A4158-0040
19	DE93-20019B	ASSY BODY LATCH;M8145G NEW LATCH	1		79292-0053-01
20	3405-000178	SWITCH-MICRO;VP-533A-OF-PS(T85) 250V,15A	1		73579-203-207
21	3405-000175	SWITCH-MICRO;VP-531A-OF(T85) 250V,15A,20	1		73579-203-278
22	3405-000178	SWITCH-MICRO;VP-533A-OF-PS(T85) 250V,15A	1		73579-203-207
23	DE66-90053A	LEVER-SWITCH(B);POM 12G NTR MX245	1		71533-0012-00
24	DE66-90052A	LEVER-SWITCH(A);POM 10G NTR MX245	1		71533-0011-00
25	DE66-40020A	LATCH-BODY;POM 50G M8135G NEW LATCH	1		72681-0004-001
26	DE61-70060A	SPRING-PLATE;SK-5 T0.5	1		76674-232-010
27	2501-000232	C-OIL;CH-21010547B7N 1.05UF,2100VAC 54X3	1		A1110-0002
28	DE59-40001A	DIODE-H.V;HVR-1X-32B-12	1		72169-219-108
29	DE91-70061B	ASSY-H.V.FUSE;THV060T-0750-H 5KV0.75A RE	1		79163-0252-01
30	DE80-10033A	BASE-PLATE;SGCC1-8 T0.8 W324.8 L515	1		72201-0037-00
31	DE61-40017A	FOOT;PP(A353) BLK MW5630T	2		73004-0007-00
32	DE26-10042B	TRANS-H.V;Y9245NTC-1 230V 50HZ AC2230V M	1	▲	77202-0080-01
33	DE65-20025A	CABLE CLAMP;DAWS-2NB NYLON66 NTR WIRE SA	2		A0078-0016
34	DE66-90013A	LEVER-DOOR;POM(F20-01) NTR MW5630T	1		71533-0015-00
35	DE31-10097A	MOTOR-SYNCHRONOUS;M2LJ24ZS52 220/240V 50	1		76823-0048-00
36	DE47-20102A	THERMOSTAT;NT-101NA(5XHP) 125V15A H 100/	1		A3024-0009
37		ASSY CONTROL-BOX;230V50HZ CE95GF(SSW) P/	1	● ▲	
38		ASSY DOOR;CE95GF P-WHT ABS	1	● ▲	
39	DE61-80036A	HINGE-LOWER;SCP1 T3.0 W24.7 L91.2 BLK-C0	1		73094-0035-00
40	DE61-80037C	HINGE-UPPER;SCP1 T3.0 W26 L76 ZP2C-W MB2	1		73094-0036-02
41	DE47-20110A	THERMOSTAT;NT-101NA(5XV)P 125V15A V 120/	1		A3024-0023
42	DE72-60035H	GUIDE-AIR;SECC (T)0.6 (W)240 (L)242.5 CE	1		
43	DE39-30074C	ASSY WIRE LEAD-C;L130 BLK N/FILTER GND	1		79224-0019-02
44	DE39-40409A	ASSY WIRE HARNESS-E;230V50HZ M9G45 CTW	1		79204-0381-00
45	DE39-40332A	ASSY WIRE HARNESS-D;230V50HZ M9G45 CTW	1		79203-0380-00
46	DE39-40012A	ASSY WIRE HARNESS-SENSOR;220V/60HZ RE-64	1		
47	DE39-40022A	ASSY WIRE HARNESS-A;230V/50HZ CE95GF	1		
48	DE61-50106A	BRACKET-HVC;SECC T0.8 W31 L125.8	1		73013-0194-00
49	DE92-90189A	ASSY-GUIDE ROLLER;MW5630T	1		79362-0281-00
50	DE67-60025C	COUPLER;PPS(ESS840) 5G BRN	1		71444-0016-001
51	DE74-70016A	RACK-WIRE;MSWR10 D264 SNC2 M9GF45 YOUNGC	1		73642-0015-00
52	DE74-20022A	TRAY-OIL;GLASS(NEOREX) T5 P1210 600G	1		73602-0016-00
53	DE92-90334A	ASSY-LEG;M9GF45	1		79362-0439-00
54	DE92-90345A	ASSY-SHAFT BARBECUE;M9GF45 STS304 D6 M9G	1		79363-0460-00
55	DE92-90207C	ASSY-ROTISSERIE;M9GF45	1		79362-0446-04
56	DE71-60195A	COVER-CEILING;MICA-SHEET T0.5 W59 L122 W	1		73314-0097-00
57	DE61-30006A	SUPPORTER-HEATER;ALUMINA 5G 2ND-W/P	1		
58	DE74-20020B	TRAY-CRUSTY;T5 P1300 L21.3 TEFLON-COAT	1		73602-0014-02
59	DE74-20015A	TRAY-COOKING;GLASS T6.0 P1318 1050G	1		73602-0007-00
60	DE39-40396A	ASSY WIRE HARNESS-D;110/220V RE-850V DOM	1		79204-0246-00
61	DE61-50301A	BRACKET-COVER;SBHG1-A RE-707GMS	1		76614-287-010
62	DE32-60013A	SENSOR-GAS;ST-MW0	1		76219-0008-00
63	DE26-20010A	TRANS-L.V;CE-95S 230V 50HZ AC7V/13.0V/2.	1		

▲ : Warning

● : Option Parts

▲ : Electrostatically Sensitive Devices

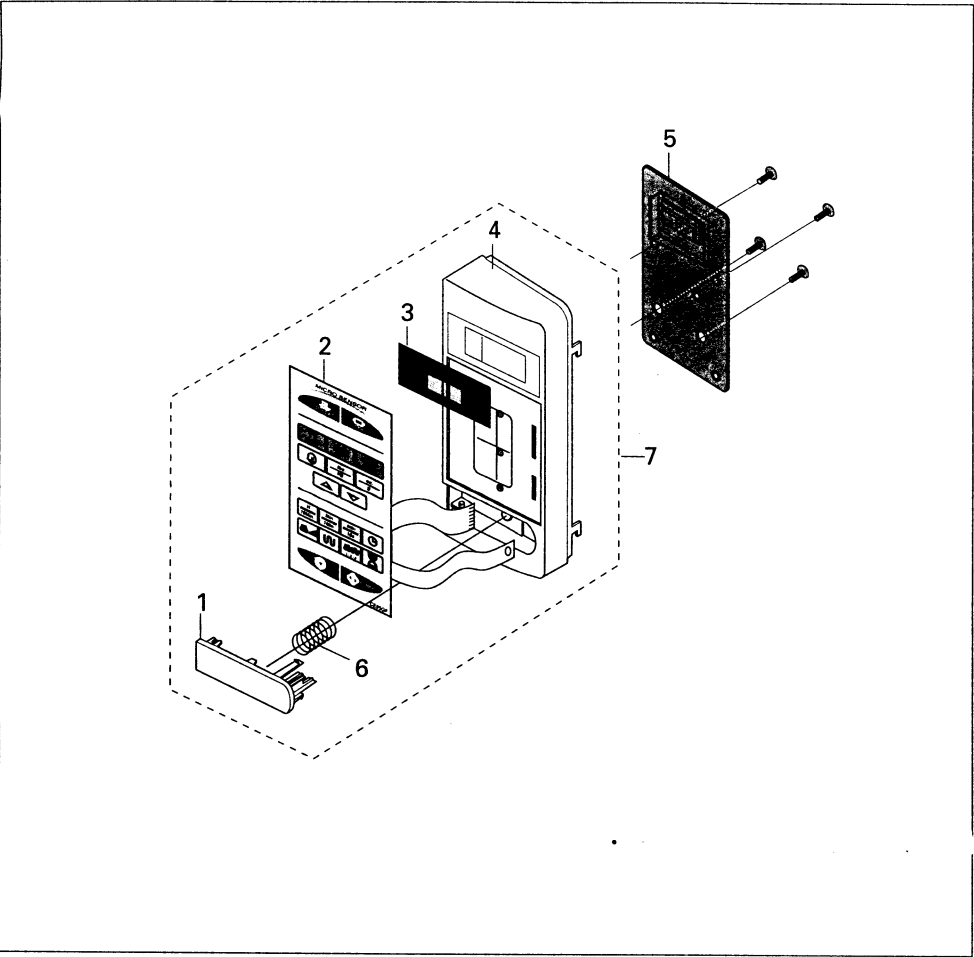
Exploded View - Door Part



Parts List - Door Parts

Ref. No	Parts No.	Description / Specification	Q'ty	Remarks	Old No.
1	DE92-40091K	ASSY DOOR-A;CE95GF(VITALITY) P-WHT ABS	1	▲	79321-0214-12
2	DE64-40087H	DOOR-KEY;POM(TC3005) BLK 13G W3	1		74042-0065-001
3	DE61-70030A	SPRING-KEY;ES HSW3 P10.7 D7.0 L40 BULING	1		72724-0036-00
4	DE60-60008A	PIN-HINGE;PI4 L17 MSWR10 M301TBC	2		70544-0010-00
5	DE92-50075B	ASSY DOOR-E;M9GF45 SELANT	1		79341-0026-00
6	DE64-40041A	DOOR-C;PP-A353 BLK MW5630T	1		74041-0040-00

Exploded View - Control Part



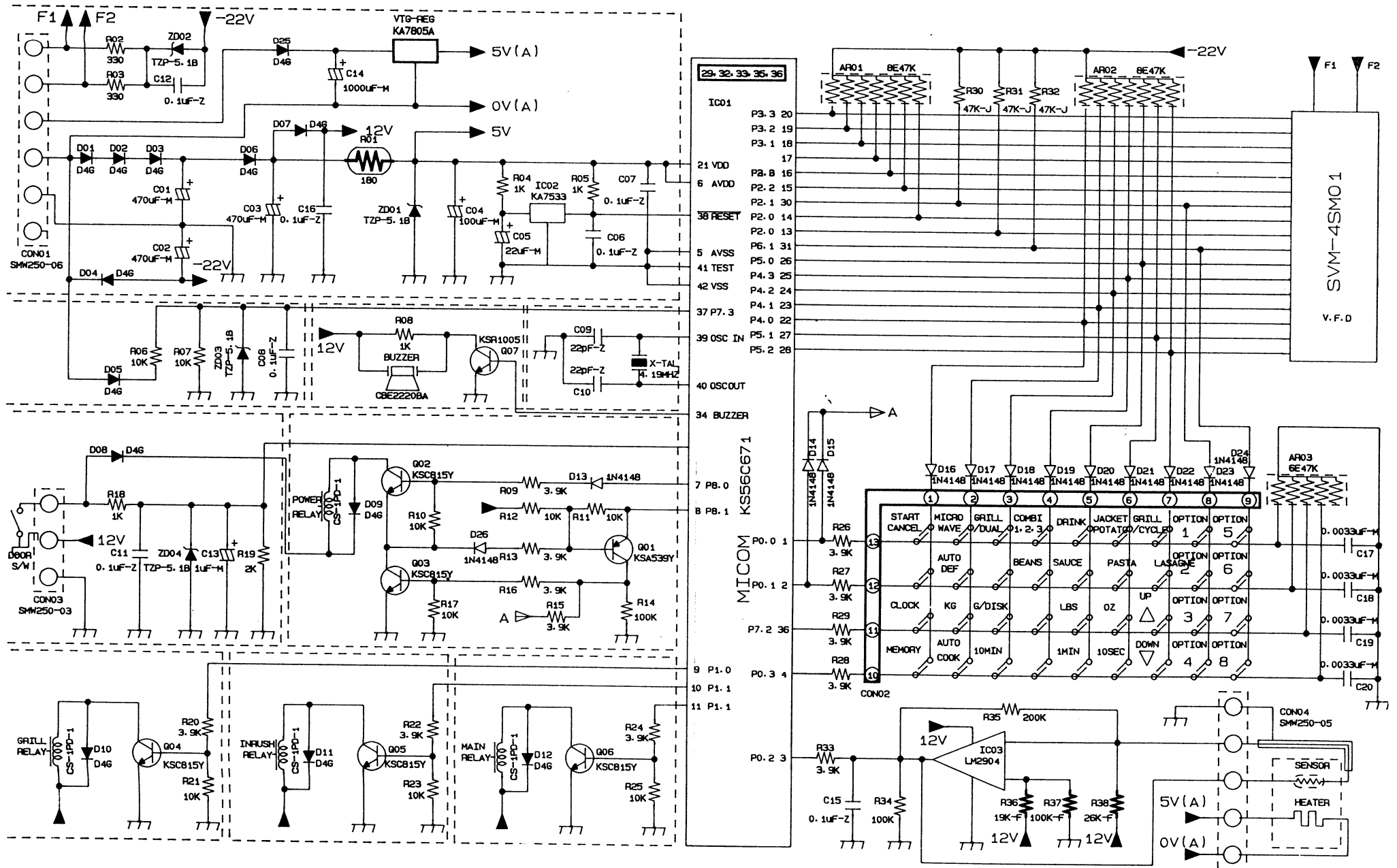
Parts List - Control Parts

Ref. No	Parts No.	Description / Specification		Q'ty	Remarks
1	DE66-20028A	BUTTON-PUSH;ABS-HR0370U RA-WH-02-B 30G M	1	● ▲	74082-0082-00
2	DE34-10154Q	SWITCH-MEMBRANE;P.C W92.8 L164.9 CE95GF	1	● ▲	76013-0070-51
3	DE67-40029A	WINDOW-DISPLAY;ACRYL-HI855M RC-SM-04-K 8	1		74073-0023-00
4	DE72-70062A	CONTROL-PANEL-TC;HR0370U RA-WH-02-B 160G	1		74051-0050-00
5	DE91-10058A	ASSY P.C.B-MAIN;230V/50HZ S VFD M9245S	1	● ▲	
6	DE61-70026A	SPRING-BUTTON;CS SWP P10.7 D17 L25.8	1		72724-0026-00
7	DE93-30015A	ASSY CONTROL-PANEL;(230)V(50)HZ CE95GF P	1	● ▲	

Parts List - Standard Parts

Parts No.	Description / Specification	Q'ty	Remarks	Old No.
DE60-10098A	SCREW-ASSY TAPTITE;PH TC M4X8 SWRCH18A Z	2	TCO	A0103-0010
DE60-10098A	SCREW-ASSY TAPTITE;PH TC M4X8 SWRCH18A Z	2	MO/DRV	A0103-0010
DE60-10082B	SCREW-A;M4 L12 FEFZY 2S	2	B/CVR	77154-203-820
DE60-10082B	SCREW-A;M4 L12 FEFZY 2S	8	B-PLTE	77154-203-820
DE60-10082B	SCREW-A;M4 L12 FEFZY 2S	1	CV/AIR	77154-203-820
DE60-20014A	BOLT-FLANGE;M5 L10 MSWR3 FEFZY	2	HI-UPP	77094-211-410
DE60-20014A	BOLT-FLANGE;M5 L10 MSWR3 FEFZY	2	HI-LOW	77094-211-410
DE60-10122A	SCREW-TAP TH;TAP TH 2-4X8 FE FN	1	C/CEIL	77128-240-085
DE60-10122A	SCREW-TAP TH;TAP TH 2-4X8 FE FN	2	B/HEAT	77128-240-085
DE60-10082B	SCREW-A;M4 L12 FEFZY 2S	2	CN-BOX	77154-203-820
DE60-10082B	SCREW-A;M4 L12 FEFZY 2S	5	P/OUT	77154-203-820
DE60-10082B	SCREW-A;M4 L12 FEFZY 2S	1	SU-MGT	77154-203-820
DE60-10082B	SCREW-A;M4 L12 FEFZY 2S	2	BD-LAT	77154-203-820
DE60-10018A	SCREW-ASSY MACHINE;PH M4X0.7P 8 MSWR10 S	2	B/EART	70504-0019-00
DE60-10080A	SCREW-WASHER;M5 L12 2S	4	MGT	77154-202-910
DE60-10080A	SCREW-WASHER;M5 L12 2S	4	HVT	77154-202-910
DE60-10069A	SCREW-TAP TH;TH M4 L10 FRFZY	2	G/AIR	77128-540-101
DE60-10069A	SCREW-TAP TH;TH M4 L10 FRFZY	1	C/CLAM	77128-540-101
DE60-10013A	SCREW-ASSY TAP;TH 2S 4 L12 MSWR3 ZPC3 FI	4	CV/MOT	70504-0004-00
DE60-10012A	SCREW-TAP TITE;TH + 3 M4 L10 SWR10 ZPC2	1	P-CORD	70504-0002-00
DE60-10012A	SCREW-TAP TITE;TH + 3 M4 L10 SWR10 ZPC2	1	MEM-PN	70504-0002-00
DE60-10012A	SCREW-TAP TITE;TH + 3 M4 L10 SWR10 ZPC2	1	B/HVC	70504-0002-00
DE60-10069A	SCREW-TAP TH;TH M4 L10 FRFZY	2	B/UPP	77128-540-101
DE60-10052A	SCREW-TAP PH;PH M4 L8 FEFZY	1	B/HI-U	77108-540-081
DE60-10045A	SCREW-TAP PH;PH M3 L6 FEFZY	1	SENSOR	77108-530-061
DE60-10012A	SCREW-TAP TITE;TH + 3 M4 L10 SWR10 ZPC2	2	B-PL/L	70504-0002-00
DE02-00029A	TAPE-SCOTCHPAR;POLYESTER 3M-893 W50	1		70859-800-311

PCB Diagram



Parts List - PCB Parts

Parts No.	Description / Specification	Q'ty	Remarks
0401-000005	DIODE-SWITCHING;1N4148,75V,150mA,500mW,4	13	D13-26
0402-000559	DIODE-RECTIFIER;D4G,400V,1A,T-1	13	D01-12,25
0501-000283	TR-SMALL SIGNAL;KSA539-Y,PNP,400mW,TO-92	1	Q01
0501-000388	TR-SMALL SIGNAL;KSC815-Y,NPN,400mW,TO-92	5	Q02-06
2003-000181	R-METAL OXIDE;180ohm,5%,1W,AA,TP,4.3x12m	1	R01
2004-000195	R-METAL;100Kohm,1%,1/8W,AA,TP,1.8x3.2mm	1	R37
2004-001976	R-METAL;19Kohm,1%,1/8W,AA,TP,1.8x3.2mm	1	R36
2004-001977	R-METAL;26Kohm,1%,1/8W,AA,TP,1.8x3.2mm	1	R38
2201-000817	C-CERAMIC,DISC;CKF1H220Z05 22PF,+80-20%,	2	C09,10
2202-000780	C-CERAMIC,MLC-AXIAL;UP050F104Z 100NF,+80	7	C06-08,11,12,15,16
2202-000833	C-CERAMIC,MLC-AXIAL;TP050X332MB 3.3NF,20	4	C17-20
2401-000150	C-AL;CESSL1E102M10 1000UF,20%,25V GP,10X	1	C14
2401-000247	C-AL;1SA1ANB107MAN 100UF,20%,10V,GP 6.3X	1	C04
2401-000964	C-AL;1SA1HFB226MRP 22UF,20%,50V,GP 6.3*1	1	C05
2401-001412	C-AL;1SG1VFB477MAN 470UF,20%,35V,GP 10X1	3	C01-03
3501-000265	RELAY-POWER;CS-1PD-N DC12V16A 12V,16A,15	4	GRILL,INRUSH,MAIN,POWER
3708-000528	CONNECTOR-FPC/FC/PIC;FCZ254-13SL,BLK 13P	1	CON02
3711-000881	CONNECTOR-HEADER;SMW250-03,WHT BOX,3P,1R	1	CON03
3711-000999	CONNECTOR-HEADER;SMW250-05,WHT BOX,5P,1R	1	CON04
3711-001038	CONNECTOR-HEADER;SMW-250-06,WHT BOX,6P,1	1	CON01
74537-001-001	RESONATOR-CERA;CSA 4.19MG(TAPG)	1	XTAL
A1000-0225	R-CARBON;RD 1/8 T 392-J	12	R09,13,15,16,20,22,24,26-29,33
A1000-0228	R-CARBON;RD 1/8 T 103-J	9	R06,07,10-12,17,21,23,25
A1000-0241	R-CARBON;RD 1/8 T 202-J	1	R19
A1000-0246	R-CARBON;RD 1/8 T 331-J	2	R02,03
A1000-0433	R-CARBON;RD 1/8 T 104-J	2	R14,34
A1000-0473	R-CARBON;RD 1/8 T 102-J	4	R04,05,08,18
A1000-0598	R-CARBON;RD 1/8 T 473-J	3	R30-32
A1000-0611	R-CARBON;RD 1/8 T 224-J	1	R35
A1018-0067	R-NETWORK;RN 1/8 X 6P 473-J T MHR5A473J	1	AR03
A1018-0069	R-NETWORK;RN 1/8 X 8P 473-J T MHR7A473J	2	AR01,02
A1104-0029	C-ELEC;CE 04 C 50V T 010-M 1SA1HFB105MAN	1	C13
A4060-0008	TR-W/RESISTOR;KSR1005 300MW 100MA 50V EB	1	Q07
A4106-0154	DIODE-ZENER;TZP5.1B 5.1/5.7V 40MA T 1W	4	ZD01-04
DE07-10001A	V.F.DISPLAY;SYM-4SM02 RED/GRN 4 13 80.2X	1	V.F.D
DE09-30008A	IC-MCU;KS56C671-25 DIP CE95GF	1	IC01 
DE13-20007A	IC-OP AMP;LM2904 DIP	1	IC03 
DE13-20009A	IC;KA7533 DIP	1	IC02 
DE13-20016A	IC-VOLT REGU;KA7805A TO-220AB 1A 0/125C	1	REG
DE30-20016A	BUZZER;CBE2220BA STICK	1	BUZZER